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MARCH 1984

## WORKSHOP ON STRATEGIC PLANNING FOR THE WEST COAST GROUND FISH RESEARCH AND MANAGEMENT PROGRAM

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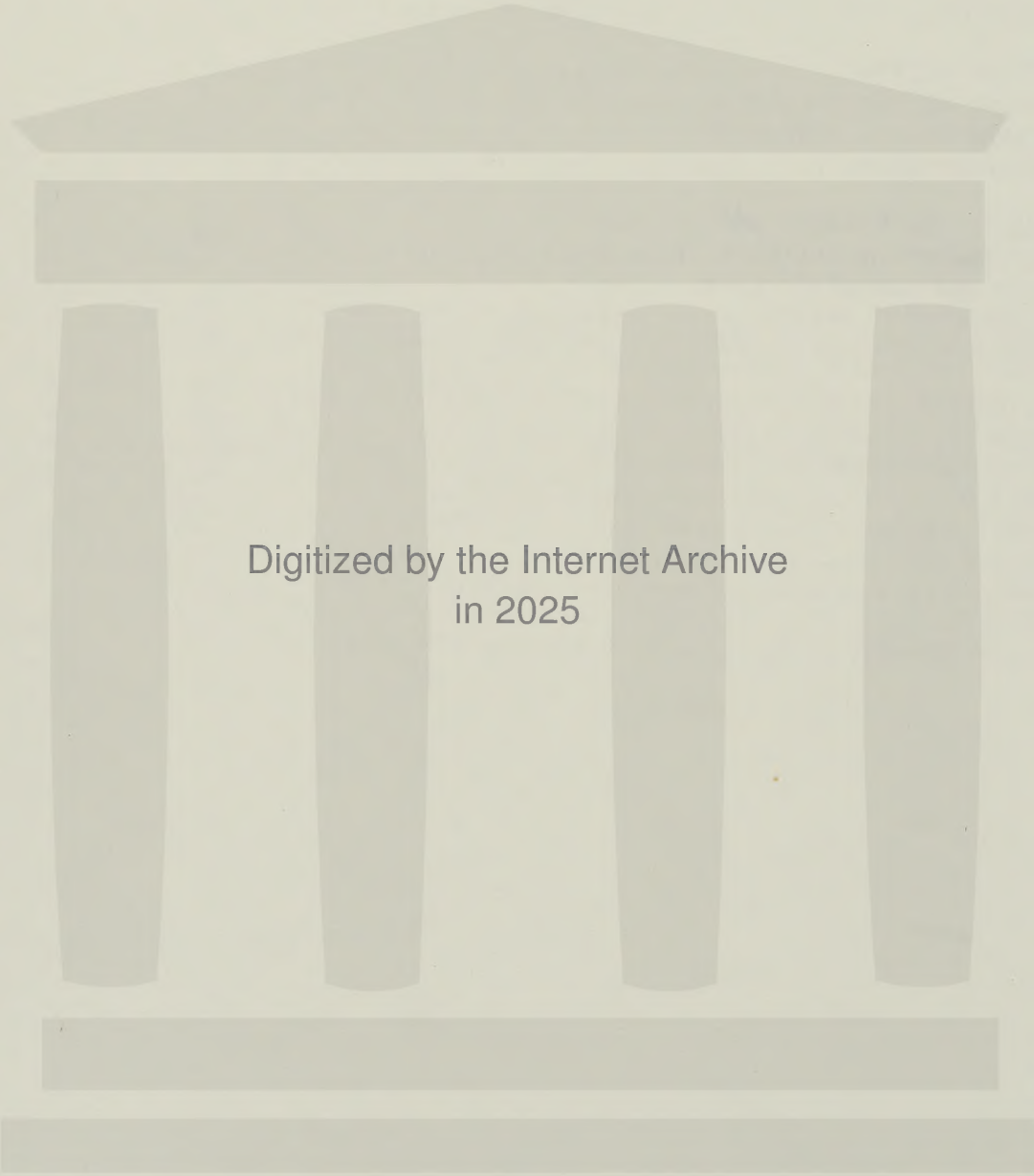
David J. Mackett and Lillian L. Vlymen



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## INTRODUCTION

A workshop to develop a strategic plan for guiding the NMFS Southwest Region (SWR) and Southwest Fisheries Center (SWFC) in their development of essential activities for the U.S. West Coast groundfish fishery was held at the Southwest Fisheries Center's Laboratory at Tiburon, California, February 15 and 16, 1984.

The participants (see Appendix A) in the workshop were from the Southwest Fisheries Center and Region, the Northwest and Alaska Fisheries Center, the Northwest Region, the Pacific Fishery Management Council, and the Groundfish Management Team of the Pacific Fishery Management Council. They represented a variety of disciplines and perspectives--administrators, fishery managers, population dynamicists, economists, fishermen and boat owners, gear specialists, etc.

The purposes of the workshop were:

- 1) to arrive at a mutual understanding of the important issues which need to be addressed during strategic planning;
- 2) to understand the current trends in the fishery and in other related entities (e.g., other fisheries, NMFS, research groups, State operations, etc.);

- 3) to identify and discuss administrative and management options for completing the strategic planning and carrying out NMFS responsibilities.

The workshop began with a welcome from the Co-convenor, Dr. Izadore Barrett, Director of the Southwest Fisheries Center, who explained that the genesis of the workshop was in a meeting between Bert Larkins and William Aron of the Northwest Region and Center and Floyd Anders and Barrett of the Southwest Region and Center late last year which focused on the present role and future responsibilities of NMFS groundfish research and management. The four Directors agreed that much could be done to improve the coordination among NMFS entities in groundfish research and management to the benefit of all concerned.

In his remarks, Barrett expressed his hope that the participants would be able to reach general agreement on the important issues so that NMFS could apply this information to form specific goals and objectives for its activities supporting the conservation and management of the groundfish resource.

Barrett introduced the workshop facilitator, David Mackett, Planning Officer of the SWFC, who explained the roles of the convenor, participants, and facilitator in terms of the context, the content, and the process of the meeting. Specifically, the role of Co-convenors Barrett and Charles Fullerton was to set the context of the meeting, namely, the NMFS Groundfish Program



Planning and the important questions that needed to be addressed concerning it. The participant's role was to generate the content of the meeting - the answers to the questions from their respective points of view; finally, Mackett explained that the role of the facilitator was to establish and carry out the process for the meeting so that the group could work as efficiently as possible and maximize the probability of reaching a consensus, if indeed one actually exists.

As recorded in the following pages, participants in the workshop: 1) identified important issues for NMFS consideration in carrying out its responsibilities for research, development, and management of the West Coast groundfish resource and fishery; 2) clarified and discussed the implications of each issue and, later, categorized these issues into major groupings; 3) described important current trends and events in the groundfish fishery; 4) identified feasible administrative actions that could be taken to solve resource and management problems.

## RESULTS OF MEETING

### Structure of the Meeting

The meeting was divided into three sections, each of which addressed a different aspect of the situation facing the National Marine Fisheries Service:

- 1) Identification and clarification of the issues that need to be addressed to develop a well-coordinated NMFS strategy for carrying out its research, development and management responsibilities for the west coast groundfish resources and fishery;
- 2) Identification and clarification of current trends in the fishery and related entities, so that a probable scenario for the future of the fishery can be written. This probable scenario is to be used as a starting point for discussions with constituents about the desired future for the fishery and the types of research and managerial actions that will be required to move toward attainment of that future; and
- 3) Development of specific administrative and managerial activities that will help NMFS address the issues, opportunities, and problems in an efficient and coordinated manner.



The meeting was conducted by a facilitator utilizing the Nominal Group Technique for the identification and clarification of elements within each of the aforementioned segments. The meeting concentrated on the intelligence-gathering aspect of managerial responsibility. Emphasis was placed on identifying the problems, issues and possible ways of handling them rather than on designing alternatives and selecting the final organizational and administrative procedures. However, the Directors of the SWR, SWFC, and NWR together with the representative of the Director of the NWAFC met afterwards to consider the suggested options and to select a course of action that will allow further progress to be made. As a first step, some of the suggested options were to be described more fully by the NWR Acting Director and the SWR Director and circulated among the Directors for comment.

### Important Issues that Need to be Addressed

The workshop participants generated and classified 67 issues that need to be addressed. The issues were generated using the Nominal Group Technique (NGT) through the following 6 steps:

1. Introduction and clarification of a trigger question
2. Silent generation of ideas
3. Round-robin recording of ideas
4. Clarification and discussion of each idea
5. Voting for the most important
6. Discussion of the results of voting.

The trigger question for generating the issues was:

### Issue Trigger Question

"In the context of developing a well-coordinated NMFS strategy for carrying out its responsibilities for research, development and management of the west coast groundfish resource and fishery, what important issues do you think need to be addressed?"

In response to the question participants suggested 68 issues. Later, during the clarification process, one issue was found to be identical to a previously listed one and was therefore eliminated from the list. Some of the



compound or more complex issues were later divided editorially into two or three simplified but related statements bringing the total number to 74.

After the clarification process, when the group was reasonably sure that the meaning and significance of each of the issues was well understood, individuals were asked to vote for the five issues they considered most "important". Thirty one issues received votes; ten different issues received first place (most important) votes, while 18 issues received the votes of two or more people. Scores were assigned to the issues based on the voting; the issues are listed in the order of their scores in Appendix C.

After the first day's session, a subcommittee worked to classify the issues into similar groups. The classified issues are given in Table 1.

Table 1. ISSUES THAT NEED TO BE ADDRESSED CONCERNING NMFS WEST COAST  
GROUND FISH FISHERY RESEARCH, DEVELOPMENT AND MANAGEMENT

A. Program management and administrative efficiency.

1. What mechanisms are required to coordinate groundfish FMP activities coastwide? (9)
2. What increase in technical resources is required to provide standard information needed to manage most species of groundfish? (3)

3. What are the specific responsibilities of NMFS, the Fishery Management Council, Groundfish Team, States, PMFC, vis-a-vis the groundfish fishery? (5)
4. How can we best coordinate the allocation of Council, NMFS, and States funds to support groundfish management requirements?
5. What priority does the federal government give to management of the groundfish fishery under conditions of limited budgets?

#### B. Futures

6. How do political factors influence scope of action?
7. What is the probable scenario for the future of the fishery based on long-term projections of economic growth and the demographics of the U.S. and its trade partners? (3)
8. How can we take into consideration the market effect of groundfish resources in other parts of the U.S. and the world?
9. What is the desired future for the fishery? (1)

#### C. Effective communication

10. What can be done to help fishermen understand the need for management measures?



11. How can we best teach people the fact that "management" of a fishery actually supports the economic viability of the fishery?

D. Status of resource

12. What is the present status of the groundfish resources? (24)
13. How should the groundfish resource be defined? (5)
14. Do we have sufficient quality information on stock abundance and distribution? (1)
15. How can we determine the strength of incoming year classes? (7)
16. How can scientists develop a better understanding of the habits of the species that are surveyed?

E. Population dynamics

17. What are the causes of good and poor recruitment?
18. How can we predict recruitment as far in advance of fishing as possible? (6)

19. What research is required to understand interactions among  
a) components of the groundfish stock, b) fisheries that  
harvest and process them, and c) the environment? (11)
20. What procedures are required to estimate annual surplus  
production? (7)
21. What is the predicted harvest rate from the present effort?
22. What rate of harvest is required for conservation purposes?
23. What research should be performed to develop better methods  
for determining the factors controlling growth and decline  
of groundfish stocks?
24. What can be done to improve the status of the depleted  
species? (2)
25. What strategy is required for minimizing the loss of habitat  
and resources from activities that impact the environment?
26. What are the impacts of man's activities on the groundfish  
resource and fishery? (5)
27. What is the relationship between recreational groundfish and  
recreational salmon fisheries?



28. What techniques should be developed to identify specific groundfish stocks?
29. Do variations in the environment have important effects on growth, and survival of groundfish?
30. What is the impact of marine mammals on the groundfish resource and fishery?
31. How does the physiological health of the groundfish (population and individuals) affect production (growth, reproduction, survival)?

F. Multi-species management

32. What types of conservation tools are most consistent with multi-species fishing operations? (21)
33. Can the commercial groundfish fishery be controlled by meshsize regulations or are quotas, trip frequencies, trip limits, etc., required? (5)
34. What research should be conducted to develop gear and fishing techniques that will allow targeting on selected species of groundfish?
35. What is current level of discards?

36. What is the impact of domestic groundfish trawlers on salmon, crab and halibut resources?
37. What gear types are most efficient at selecting for optimum market species, size and condition?
38. Can multi-species harvest guidelines be set better than by summing ABC's? (3)

G. Management techniques and analysis

39. What information is required for assessing the economic consequences of each alternative set of fishery regulations?  
(14)
40. What is the present groundfish fishing effort?
41. How should the fishery be defined?
42. Is the attainment of greater management sophistication worth the cost? (21)
43. How can the fish that are currently discarded best be used?
44. What strategies and analysis are required to allow managers to deal explicitly with uncertainty? (2)



45. How can timely assessments be made of effects of policy decisions on groundfish resources and harvesters? (5)
46. Is enforcement adequate?
47. What data base should be developed to monitor adequately the economic status of the fishing fleet? (1)
48. Are we "over-managing" to the point of preventing the fishermen from conducting an economically viable fishery? (6)
49. What criteria should be used to determine when sub-stocks or areas should be managed separately? (7)
50. Should recreational catches be included in the FMP?
51. How can we incorporate the possibility of recruitment failure in bioeconomic models and analysis used for management decisions?
52. What is the minimum mechanism required to conduct an orderly fishery?
53. How can value from the resource be maximized?
54. What "values" are we trying to maximize?

55. What information is required to understand the way in which fishermen respond?

H. Excess capacity

56. Is there "excess capacity" in segments of the groundfish fishery?

57. Should NMFS cease further funding for construction of groundfish vessels through the FVOG/CCF programs?

58. How can control of the number of vessels in the groundfish fishery be made politically and socially acceptable to a majority of people?

59. What strategy is required to address the problem of overcapitalization of the fleet? (7)

I. Development

60. How can we create a climate for development that will allow someone to take a large risk with a related probability of a large profit but at the same time limit growth before it gets "out of hand"?

61. Should terms and conditions for joint venture fisheries

include purchasing requirements or other commitments to assist shoreside processors?

62. What are the opportunities for "full utilization" of underutilized resources?

63. What are the impediments for "full utilization" of underutilized resources? (1)

64. What are the underutilized resources?

65. Are there food technology impediments to full utilization of resources as a market product?

#### J. Allocation

66. How should the relative values of commercial and recreational groundfish fisheries be compared?

67. Should specific allocations be made for groundfish as forage?

68. What policy should we have about allocation among user groups so that issues can be dealt with directly? (14)

69. How does the allocation process work?

70. How should marine mammal interactions be controlled? (3)



71. Is allocation of time and area regulations for recreational fishing a reasonable means of optimizing yield?

72. How much weight should be given to social issues versus economic issues? (1)

73. If growth is limited in one harvest sector should it be limited in all sectors?

K. Product quality and safety

74. How does the physiological health of the groundfish affect their desirability as seafood? (6)

### Trends in the Fishery and other Important Entities

It is useful in planning operations to have a good idea of where we are and where we are going. These starting points are required knowledge for taking corrective actions that will direct us to where we actually desire or want to go. Standard assessments of the status quo will give us a good idea of where we are - a snapshot of the current situation. However, like a snapshot, status quo analysis does not tell us in what direction and how fast the subject or situation is moving or changing, nor what the situation will be when we are ready and able to take action. However, if we introduce the notion of time into our analysis of the status quo, we can investigate where the situation is heading and at what rate. This will allow us to prepare for the actions that we need to take to either keep the situation on a desirable course or move it to a better course. The situation is analogous to that of a trap shooter who must "lead" the clay pigeon--anticipate where it will be when his actions can become effective in changing the course of the bird. A gunner pointing and shooting at the "current situation" of the clay pigeon, where ever he first observes it will burn powder, make a lot of noise, and raise hopes but will not be the least bit effective.

For similar reasons, NMFS planning and management actions, if they are to be successful, must anticipate the probable future of the groundfish fishery. The communication of this probable future, which reveals anticipated problems or opportunities, to the people who are affected in some way by NMFS actions is a good starting point for discussions on what is actually desired for the

future. We don't have to accept the projection of the status quo into the future as inevitable, but are free to change it as people desire - but we must know the trajectory of some targets so that our actions will be most effective. To gather information for writing such a probable scenario for the west coast groundfish fishery, the group engaged in a brainstorming session to generate ideas in response to the following question: "For the purpose of describing the probable groundfish fishery situation in 5 to 10 years, what important current trends and events should be taken into account?"

Thirty-five different trends were suggested. Their relative importance (and sequence of addressing them) was judged by voting; afterwards, a discussion was held to elicit the opinions of the participants on each of the trends. Table 2 lists the subjects for which trends were later discussed. Rough notes taken during the discussion are given in Appendix D. These notes, together with factual information about the fishery, etc., will be used by the SWFC to produce a probable scenario for the groundfish fishery.



Table 2. Important current trends in the west coast groundfish fishery.

|                                  |                                                                               |                                         |                                  |
|----------------------------------|-------------------------------------------------------------------------------|-----------------------------------------|----------------------------------|
| 1. Domestic demand for sea food  | 10. Allocation trends                                                         | 19. Oil development                     | 28. Relative price of groundfish |
| 2. Status of resource            | 11. Imports                                                                   | 20. Burden of regulations               | 29. Industry organization        |
| 3. Fishing power of fleet        | 12. Interest rates                                                            | 21. Market specialization               | 30. Marketing effort             |
| 4. U.S. economy                  | 13. Budget for research and management                                        | 22. Satellite and electronic technology | 31. U.S./foreign relations       |
| 5. Recreational pressures        | 14. Shrimp fishery                                                            | 23. Product development                 | 32. Fishing gear                 |
| 6. Alaska groundfish development | 15. Domestic annual harvest/<br>domestic annual processing<br>(joint venture) | 24. Ocean dumping                       | 33. Marine mammals               |
| 7. Foreign markets (exports)     | 16. Time (in staff)<br>(in ideas)                                             | 25. Assessment technique                | 34. Conflicts among user groups  |
| 8. Depletion                     | 17. Energy supplies                                                           | 26. Ownership of fleet/<br>companies    | 35. Politics                     |
| 9. Real value of vessel and gear | 18. Offshore mining                                                           | 27. Rate of inflation                   |                                  |

### Options for Administrative and Managerial Action

The participants, having engaged in a discussion of the issues that need to be resolved, and in a discussion of the important trends - some of which revealed serious problems or suggested opportunities - were asked to give their ideas about what NMFS should do about them.

In particular the workshop participants were asked to respond to the following trigger question:

"In view of problems, opportunities and issues, what specific administrative or managerial actions should the National Marine Fisheries Service (Southwest Region, Northwest Region, Northwest and Alaska Fisheries Center, Southwest Fisheries Center) take to solve these problems and meet the opportunities?"

The responses from the participants and observers included the following options:

1. Groundfish team should continue to divide the responsibilities within limits of its resources; but when requirements exceed current resources the team would write a proposal and submit it to a committee of the 4 NMFS Directors who in turn would identify the source of funds and decide who will do the work.

2. Consider alternative mechanisms for managing groundfish management, e.g., something akin to the Whitefish Authority.
3. Form a committee of scientists to define and set priorities for major long-term research needs.
4. Strengthen working relationship between the users (appliers) of research and the researchers.
5. Develop interdisciplinary task force or team to look at issues and components of those issues.
6. Conduct training courses for new Council members.
7. Recommend to Council that members be assigned as a subcommittee to work with team (advisors/scientists).
8. Seek more useful statement of groundfish management objectives.
9. Subdivide major problem areas and organize task groups or committees to make recommendations.
10. Assign a group to lay out what needs to be done to address the 5 most important issues, and compare these needs to the present work plan and make recommendations to 4 Directors.



11. Develop a summary display of existing State and Federal monies and staff-years devoted to the 5 major groundfish issues.
12. School Council members in basis of population dynamics and management methods.
13. Convene coast-wide workshop on issue(s) to obtain a coast-wide perspective of the problem, its critical components, estimated costs of addressing the problem, and an assessment of the entities with the capabilities to help solve them.
14. Create user support for the program and for the required budget.
15. Identify basic fishery data needed for minimal management and free any surplus funds for research.
16. Suggest that the four Directors conduct a semi-annual review of the groundfish situation to examine the results of past recommendations that were adopted and to adjust the program if necessary.
17. Assign NMFS teams to provide data and research results to the groundfish team in each groundfish critical area.
18. Develop task force of administrators to evaluate recommendations of the workshop (see #13) in view of budgets and other priorities.

19. Develop an annual status-of-stock report for west coast groundfish analogous to the documents produced for the North Pacific Fishery Management Council.
20. Establish a NMFS clearing house a) to handle requests of the team or council, b) to make proper work assignments, and c) to assure that assignments are completed.
21. Establish an Administrative Task Force to make decisions about appropriate changes in program emphasis.
22. Assign oversight task force to review progress on a periodic basis.
23. Form a group to investigate modern methods of management in the face of uncertainty.
24. Consider establishing a CalCOFI-type program to tackle large-scale research problems.

## WRAP-UP SESSION

As the Groundfish Workshop drew to a close, the participants and observers were asked for their final comments. A summary of individual comments follows.

- This was a useful exercise, particularly in developing the 68 issues that were then categorized.
- This workshop was useful only if we follow-up. It is obvious that we have some major problems.
- Nothing major surfaced here and there were no surprises. However, we should improve our communications.
- The interaction was useful and I would appreciate receiving copies of the trends.
- It was useful to have gone through this, although nothing was earth-shaking. I think we have a better understanding now of how people are thinking.
- The workshop gave us an opportunity to look ahead. I think it is important for us now to put a game plan together.



- You should now talk to others outside NMFS about these problems and get on with solving them.
  
- I think we could probably have met with our own staffs and made our own lists of issues. I am not prepared to make a change at this time. The workshop didn't provide any surprises. There is, however, room for evaluation of whether or not the situation is critical enough to demand changes.
  
- Several individuals said that the workshop was very useful to them personally.
  
- It was helpful to find out what the issues are and particularly how managers see the situation. I think we should include the commercial fishermen in the research planning process that will follow this meeting.
  
- I learned a lot, especially in identification of needs. Hands-on researchers need this sort of guidance.
  
- Agree that we should get these matters out in front of the public. If some of you think that nothing new was brought out here...you weren't listening.
  
- I have mixed feelings. I'm not sure what we accomplished today in discussing the trends. The first day of the workshop seemed more focused to me.

- I'd like to leave you with the thought that it takes lots of money and resources to do stock assessment properly.
- Personally, I am taking a wait and see attitude.
- What I heard during these 2 days reinforces my belief that what we have now is an ad hoc approach to problems and that we need to improve our approach.

The Workshop adjourned at 2:10 p.m.

## APPENDICES

APPENDIX A

LIST OF PARTICIPANTS

Mr. Norman J. Abramson  
Director, Tiburon Laboratory, SWFC, NMFS, NOAA  
Tiburon, California

Dr. Izadore Barrett  
Director, Southwest Fisheries Center, NMFS, NOAA  
La Jolla, California

Mr. George Easley, Administrator  
Oregon Otter Trawl Commission  
Astoria, Oregon

Mr. E. Charles Fullerton  
Regional Director, Southwest Regional Office  
NMFS, NOAA  
Terminal Island, California

Dr. Murray L. Hayes  
Director, Resource Assessment and Conservation  
Engineering, NMFS, NOAA  
Northwest and Alaska Fisheries Center  
Seattle, Washington

Dr. Daniel D. Huppert  
Leader, Commercial and Recreational Fisheries  
Research for Management, SWFC, NMFS, NOAA  
La Jolla, California

Dr. Harvey Hutchings  
Chief, Fisheries Management Division  
Northwest Regional Office  
NMFS, NOAA  
Seattle, Washington

Dr. Thomas E. Kruse  
Acting Regional Director  
Northwest Regional Office  
NMFS, NOAA  
Seattle, Washington



Dr. William H. Lenarz  
Leader, Groundfish Analysis Project  
Tiburon Laboratory  
NMFS, NOAA  
Tiburon, California

Mr. Rodney McInnis  
Acting Chief, Fisheries Management Division  
Southwest Regional Office  
NMFS, NOAA  
Terminal Island, California

Mr. Alan Millikan, Chairman  
Groundfish Management Team  
Pacific Fishery Management Council  
c/o Washington Department of Fisheries,  
University of Washington  
Seattle, Washington

Dr. G. Wesley Silverthorne  
Regional Economist  
Southwest Regional Office  
NMFS, NOAA  
Terminal Island, California

Mr. J. Gary Smith  
Deputy Regional Director  
Southwest Regional Office  
NMFS, NOAA  
Terminal Island, California

#### OBSERVERS

Mr. Maxwell B. Eldridge  
Leader, Striped Bass - Early Mortality  
Tiburon Laboratory NMFS, NOAA  
Tiburon, California

Mr. Edward Ueber  
Resource Economist, Tiburon Laboratory  
NMFS, NOAA  
Tiburon, California

Mr. Susumu Kato, Chief  
Underutilized Fishery Resources Investigations  
Tiburon Laboratory NMFS, NOAA  
Tiburon, California

Mr. Henry O. Wendler  
Staff Officer (Marine)  
Pacific Fishery Management Council  
Portland, Oregon

Dr. Jeannette Whipple, Chief  
Physiological Ecology Investigations  
Tiburon Laboratory NMFS, NOAA  
Tiburon, California

FACILITATOR

Mr. David J. Mackett  
Program Planning Officer  
Southwest Fisheries Center NMFS, NOAA  
La Jolla, California

EDITORS

Mr. John Greeley  
Editorial Assistant  
Physiological Ecology Investigations  
NMFS, SWFC, Tiburon Laboratory  
Tiburon, California

Mrs. Lillian Vlymen  
Technical Writer/Editor  
Southwest Fisheries Center NMFS, NOAA  
La Jolla, California

APPENDIX B

AGENDA

WORKSHOP ON STRATEGIC PLANNING FOR THE NMFS GROUND FISH PROGRAM

First Day February 15, 1984

- |                                                                                      |                      |
|--------------------------------------------------------------------------------------|----------------------|
| 1. Introductions                                                                     | Barrett              |
| 2. Purpose of meeting                                                                | Barrett<br>Fullerton |
| 3. Generation and clarification of issues                                            | Group                |
| 4. Generation of the trend subjects                                                  | Group                |
| 5. Ad hoc Committee work to<br>structure the issues into Groups<br>of similar issues |                      |

Second day February 16, 1984

- |                                                                                                                   |         |
|-------------------------------------------------------------------------------------------------------------------|---------|
| Review of previous day's work                                                                                     | Mackett |
| Results of "Classification" of the Issues                                                                         | Barrett |
| Results of voting for most important trends                                                                       | Mackett |
| Generation of trends                                                                                              | Group   |
| Generation of planning administrative/<br>managerial options                                                      | Group   |
| Meeting of NWR, NWAFC, SWFC and SWR<br>principals to review and consider<br>administrative and managerial options |         |

## APPENDIX C

### ISSUES

ISSUES THAT NEED TO BE ADDRESSED CONCERNING NMFS GROUND FISH FISHERY  
RESEARCH, DEVELOPMENT AND MANAGEMENT

ISSUES LISTED IN THE ORDER OF THE SCORES THEY RECEIVED  
IN THE NGT VOTING PROCESS

Scores based on the voting are given in parentheses; a first place vote equals five points, a second place vote equals four points etc., and finally, a fifth place vote equals one point.

Issue number; Issue; Score; Category

12. What is the present status of the groundfish resources? (24) D
32. What types of conservation tools are most consistent with multi-species fishing operations? (21) F
42. Is the attainment of greater management sophistication worth the cost? (21) G
39. What information is required for assessing the economic consequences of each alternative set of fishery regulations? (14) G



68. What policy should we have about allocation among user groups so that issues can be dealt with directly? (14) J
19. What research is required to understand interactions among a) components of the groundfish stock, b) fisheries that harvest and process them, and c) the environment? (11) E
1. What mechanisms are required to coordinate groundfish FMP activities coastwide? (9) A
20. What procedures are required to estimate annual surplus production? (7) E
49. What criteria should be used to determine when sub-stocks or areas should be managed separately? (7) G
59. What strategy is required to address the problem of overcapitalization of the fleet? (7) H
15. How can we determine the strength of incoming year classes? (7) D
18. How can we predict recruitments as far in advance of fishing as possible? (6) E

48. Are we "over-managing" to the point of preventing the fishermen from conducting an economically viable fishery? (6) G
74. How does the physiological health of the groundfish affect their desirability as seafood? (6) K
13. How should the groundfish resource be defined? (5) D
33. Can the commercial groundfish fishery be controlled by mesh size regulations or are quotas, trip frequencies, trip limits, etc. required? (5) F
3. What are the specific responsibilities of NMFS, the Fishery Management Council, Groundfish Team, States, PMFC, vis-a-vis the groundfish fishery? (5) A
45. How can timely assessments be made of effects of policy decisions on groundfish resources and harvesters? (5) G
26. What are the impacts of man's activities on the groundfish resource and fishery? (5) E
7. What is the probable scenario for the future of the fishery based on long-term projections of economic growth and the demographics of the U.S. and its trade partners? (3) B

2. What increase in technical resources is required to provide standard information needed to manage most species of groundfish?  
(3) A
70. How should marine mammal interactions be controlled? (3) J
38. Can multi-species harvest guidelines be set better than by summing ABC's? (3) F
24. What can be done to improve the status of the depleted species?  
(2) E
44. What strategies and analysis are required to allow managers to deal explicitly with uncertainty? (2) G
14. Do we have sufficient quality information on stock abundance and distribution? (1) D
47. What data base should be developed to monitor adequately the economic status of the fishing fleet? (1) G
63. What are the impediments to "full utilization" of underutilized resources? (1) I
9. What is the desired future for the fishery? (1) B

72. How much weight should be given to social issues versus economic issues? (1) J

THE REMAINING ISSUES ARE IN NO PARTICULAR ORDER

56. Is there "excess capacity" in segments of the groundfish fishery?  
H
57. Should NMFS cease further funding for construction of groundfish vessels through the FVOG/CCF programs? H
17. What are the causes of good and poor recruitment? E
40. (a) What is the present groundfish fishing effort? G
21. What is the predicted harvest rate from the present effort?  
E
22. What rate of harvest is required for conservation purposes?  
E
41. How should the fishery be defined? G
58. How can control of the number of vessels in the groundfish fishery be made politically and socially acceptable to a majority of people? H



66. How should the relative values of commercial and recreational groundfish fisheries be compared? J
67. Should specific allocations be made for groundfish as forage? J
60. How can we create a climate for development that will allow someone to take a large risk with a related probability of a large-profit but at the same time limit growth before it gets "out-of-hand"? I
23. What research should be performed to develop better methods for determining the factors controlling growth and decline of groundfish stocks? E
34. What research should be conducted to develop gear and fishing techniques that will permit targeting on selected species of groundfish? F
42. Withdrawn, same as #7.
69. How does the allocation process work? J
10. What can be done to help fishermen understand the need for management measures? C

35. What is current level of discards? F
43. How can the fish that are currently discarded best be used? G
61. Should terms and conditions for joint venture fisheries include purchasing requirements or other commitments to assist shoreside processors? I
11. How can we best teach people the fact that "management" of a fishery actually supports the economic viability of the fishery?  
C
25. What strategy is required for minimizing the loss of habitat and resources from activities that impact the environment? E
4. How can we best coordinate the allocation of Council, NMFS, and States funds to support groundfish management requirements? A
5. What priority does the federal government give to management of the groundfish fishery under conditions of limited budgets? A
27. What is the relationship between recreational groundfish and recreational salmon fisheries? E

62. What are the opportunities for "full utilization" of underutilized resources? I
8. How can we take into consideration the market effect of groundfish resources in other parts of the U.S. and the world? B
50. Should recreational catches be included in the FMP? G
28. What techniques should be developed to identify specific groundfish stocks? E
29. Do variations in the environment have important effects on growth, and survival of groundfish? E
30. What is the impact of marine mammals on the groundfish resource and fishery? E
36. What is the impact of domestic groundfish trawlers on salmon, crab and halibut resources? F
37. What gear types are most efficient at selecting for optimum market species, size and condition? F
16. How can scientists develop a better understanding of the habits of the species that are surveyed? D

51. How can we incorporate the possibility of recruitment failure in bioeconomic models and analysis used for management decisions?

G

52. What is the minimum mechanism required to conduct an orderly fishery? G

53. How can value from the resource be maximized? G

71. Is allocation of time and are regulations for recreational fishing a reasonable means of optimizing yield? J

6. How do political factors influence scope of action? B

54. What "values" are we trying to maximize? G

31. How does the physiological health of the groundfish (population and individuals) affect production (growth, reproduction, survival)? E

55. What information is required to understand the way in which fishermen respond? G

64. What are the underutilized resources? J



65. Are there food technology impediments to full utilization of resources as a market product? I
73. If growth is limited in one harvest sector should it be limited in all sectors? J
46. Is enforcement adequate? G

APPENDIX D

ALLOCATION

NOTES FROM THE DISCUSSION OF IMPORTANT TRENDS

- The biggest difficulty in this situation is the predator-prey relationship. Marine mammals (which share in the resource) are increasing and the role of the environmentalists is critical in this situation. Other participants appeared to agree with this view.
- Most allocations continue to be implicit, not explicit, i.e., indirect, resulting from bag limits.
- It appears to me that what we are doing now is allocating toward inefficiency. We are forcing the large trawlers out of business. Let us face it, the only measure of success in a capitalist system is profit.
- More and more of the manager's time will be necessary to make explicit and implicit allocations; possibly more Balkanization.
- When you get close to MSY on certain species the allocation problems between users become more critical.

- Pressures are mounting to reserve certain species for exclusive use of recreationalists. The black rockfish is an example of such a species. At present 15 or 20 species of groundfish are in this category.
- Consumer interest supports the commercial fishery and is reflected in the price trends.
- One important trend which we see is that toward a phase-out of foreign fishing and ultimately an end of joint venture operations.
- There may be fish entering the market from Alaska which will be reflected in depressed prices.
- Regarding fleet composition, I've seen an increase in the relative number of small boats. The larger boats will come back into the fleet when hake comes on-line.
- In my view, the big boats are not coming back. The ideal fishing boat for this area is 60 feet in length and with 500 horse power. This size boat is fine for fishing hake.
- I suggest that selling blocks to the big boats may reverse the trend in the fishery.

- Another trend which may affect the fishery is water removal from the river system for other uses. At present this is an on-going trend with many number of acre feet diverted each year.
- I believe that there will be more and more pressures to minimize the incidental catch.
- I really can't agree on joint ventures. I don't think that joint ventures will be phased out. As I see it more and more fish are going to be coming down from Alaska. Unless the boys can find a new place to play, there will be no market for the domestic product here.
- Joint ventures in my view will be phased out in 5 to 10 years although initially it may go up.
- Well I think joint ventures will go down but I don't think they will ever be phased out.

## STATUS OF RESOURCE

- I think that the resource is a little bit down at present but that it will go up slightly and then flatten out. As I see it they are still fishing down some of the stocks with the exception of whiting.
- Rockfish is down with a yield of 90,000-100,000\* metric tons per year. Flatfish is steady but staying down. Whiting seems to be getting worse. A look should be taken at all three categories-- rockfish, the flatfish complex and whiting.
- We should look in terms of biomass and of the sustainable catch. I think the sustainable catch will increase but the biomass may decrease.
- A participant raised the question of how the trend could be reversed. The response was to cut back on rockfish using the only tool available--management regulations.
- The stocks, I believe, will come under more and greater pressures. I think they will go down and that there will be

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\*During the review and comment period it was stated that.."Yield was 47,000 mt in 1983 and current ABC's (without shortbelly) are less."



a slow recovery. I also see more pressures on the sablefish complex.

- I think that the relative mix will change.
- We will, I believe, continue to exploit the species around the edge of the fishery and I see us as having to scratch harder.
- I think you are being unduly pessimistic. I see the catch as being sustained, that is, the rockfish-flatfish complex, at the 90-100,000 metric ton figure.
- The species mix is important but it may reduce some species.
- We will probably be cropping some species.
- It is likely that a sustainable yield will ultimately be maintained but I see that at some point beyond 10 years.
- Personally, I see canary and yellowtail rockfish in trouble.
- The management structure may collapse.
- Whether the stocks go up or down, the species structure will change.

- Certainly for the near term I expect to see more downward trends.
- An important consideration is the environment. Lately, we don't know what effect this is having on the stocks.
- From all indications last year was a failure for many species of rockfish.

## FISHING POWER OF THE FLEET

- I think we should define the term: The ability of the fleet to harvest fish and the ability of the fleet to catch fish in terms of technological improvements (efficiency). Fishing Power can change by adding more of the same type of units or by adding greater efficiencies through technological improvements.
- The trend is to shift away from trawlers and to fixed gear such as gillnets, traps, longlines (hook and line). This trend will probably cause a decrease in per unit of effort.
- There has been a recent trend in draggers going off to Alaska since they cannot make money here. Since we are talking about a potential 2 billion pounds of pollock off Alaska, it should take longer than 5-10 years to exhaust Alaska's fisheries.
- The number of large trawlers in the groundfish fisheries have increased because there are no shrimp for them to catch.
- There is a problem of excess capacity and we may possibly tackle this problem in 10 years. If the shrimp come back, I think you will see a mass exodus of large boats.

- I see a change for a breakthrough in acoustics technology. What this will do is that we actually see if the fish are tied to the bottom. These bottom acoustics can actually cut down on the search time since you won't set the net unless the fish are there.
- We don't need any more fishing power on this coast. This does not include Alaska.
- All trawlers fish groundfish on this coast. The boats are dropping out because of the economic situation. There will also be a big decrease in the groundfish fleet if the shrimp come back.
- The ability to produce is greater than the ability to market and get rid of fish.
- I believe that markets and prices will not go up in terms of real dollars.
- I see no viable salmon fishery north of California within a few years; then I believe you will see a big influx of salmon boats into the groundfish fishery.

- At present the fleet will always be able to catch more fish than is allowable.



## IMPACT OF U.S. ECONOMY ON THE GROUND FISH FISHERY

### DEMANDS

- I foresee a gradual growth for the groundfish fishery over the next five years (GNP), with an average growth of about 2.8% a year.
- At present with the U.S. dollar high, this encourages imports. Exchange rates are important because they affect imports.
- The U.S. is the best consumer market in the world. It is not Japan, China or England but here, and I think imports will continue at a high level.
- Groundfish prices in the U.S. are at a low point and I expect this to continue.
- I would certainly not expect a sharp change in prices.
- According to the statistics it seems older citizens eat more fish.
- As far as the U.S. economy is concerned I expect interest rates to go down if the federal government raises taxes.

- I don't think it will ever go down to the 3% rate.
- What about the effect of State and Federal budgets?
- The States may get some money from the Dingell-Johnson bill.
- See a continuation of the downward trend in federal budgets.

## CONFLICTS AMONG USERS

- What are these conflicts? I see them as mobile versus fixed gear; commercial versus recreational fisheries; resource users versus the protectionists; protectionists versus the environmentalists; big boats versus little boats; treaty Indians versus the non-treaty Indians; shore based versus joint ventures.
- As for trends, I see more of the same.
- I think the trend is to reserve more of the resource for the recreational fishermen.
- I think that the definition of what is big and what is little will change.
- I also see a trend toward sanctuaries.
- I define an environmentalist as someone not opposed to use and a protectionist as someone who simply wants to sit in a cave and dig with a stick.
- I see the conflict not as treaty Indian versus non-treaty but as Indian versus non-Indian. This is an event waiting to happen.

Indications are that the Indian wants a halibut allocation and probably this will be resolved by court order.

- The commercial recreational conflict will increase. For example, there is pressure to do away with gillnets and more and more pressure to direct species to recreational fishermen. This pressure is increasing in California and moving north.
- A virulent form of the conflict between commercial and recreational fishermen exists presently in Florida and Texas.

## OWNERSHIP OF FLEET/COMPANIES

- I see this as a mix although most will be owner-operated.
- If we go to block sales, say in 1000 mt allocations, the ownership picture will change.
- I see an owner-operator as always more efficient.
- The way block sales are structured will influence shares.
- I personally don't believe that there is enough political muscle around at present to get anything like that through the legislatures. Block sales are in the area of total speculation at this point.



## BURDEN OF REGULATIONS

- These may increase to the point of self-destruction.
- Considering the budget, the trend may be bursting already.
- The burden of regulations may increase, which in effect is an increase in management.

## OIL DEVELOPMENT

- Oil development could cause a shift from trawlers to fixed gear.

## SHRIMP FISHERY

- 200 shrimp boats have gone into the groundfish fishery during the last 2 years.
- If the shrimp populations go up, the boats will come back, at least part time. I think that the shrimp population may come back in five years or so.
- If this happens, the effort shift will be more marked.

REAL VALUE OF VESSEL AND GEAR

- The trend is down but will certainly go up. Replacement costs of the vessel are not reflected in the present prices.
- 45 to 50% of the survey value of replacement cost two years ago.
- As I see it this is a good time to buy a boat.

## ALASKA GROUND FISH DEVELOPMENT

- Alaskan fish is sold fresh on the west coast but mainly as frozen fish in the east and midwest.
- If fishermen pay 20 cents freight per pound and then compete in the West Coast market, they can't make a profit.
- As you go north to Alaska the quality of the fish worsens.  
Icelandic cod is the Cadillac of frozen fish.
- If the quality of the fish could be maintained, the price could be higher.
- Substitution for cod (??????)
- The West Coast market is better because the consumers are more sophisticated and demand a better quality product.



## RECREATION

- I see recreational fishing as increasing.
- The recreational pressures on groundfish are increasing.
- I think it is important to quantify the trend; a recreational survey is in order to do this.

BUDGET FOR RESEARCH AND MANAGEMENT

- I see this at staying approximately level.
- More money will go to management, probably in the form of applied research.



